

High Transmittance Sub-Wavelength Structure Polarization Module

ABSTRACT

5 The present invention relates to a high-transmission polarization module composed of sub-wavelength structures, which comprises: a transmission substrate and a plurality of collimation units. The transmission substrate possesses a top and a bottom surfaces. The top surface has a plurality of projecting and sunken parts, wherein the sunken part has a first sub-
10 wavelength structure while the projecting part has a second sub-wavelength structure. The collimation units are arranged on the bottom surface according to the positions of the sunken parts capable of guiding the light into the sunken part. The first sub-wavelength structure is capable of separating the light with different polarizations while the second sub-
15 wavelength structure is capable of shifting the phase of the light so that the light can pass the polarization module with a high efficiency and producing a light with a specific polarization.